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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/673,143 10/11/00 PRIGENT

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EXAMINER

MM91/1005

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MAYO III, W

ART UNIT

PAPER NUMBER

2831

DATE MAILED:

10/05/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

**Office Action Summary**

Application No.

09/673,143

Applicant(s)

PRIGENT ET AL.

Examiner

William H. Mayo III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11 is/are rejected.
- 7) ☒ Claim(s) 10 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in national PCT Application No. PCT/FR00/00489, filed on February 28, 2000.

***Information Disclosure Statement***

2. The information disclosure statement filed October 11, 2000, has been submitted for consideration by the Office. It has been placed in the application file and the information referred to therein has been considered.

***Specification***

3. The abstract of the disclosure is objected to because it contains the term "comprising" in line 1 and the term "said" in line 6, which are improper language for the abstract. The applicant should replace the term with ~~having~~ and ~~the~~ respectively.

Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 1 recites the limitation "said layer" in line 3, which is confusing and renders the claim indefinite. It is unclear if the applicant is intending on referring to the previous mentioned "at least one covering layer" or if the applicant is referring to a new layer. If the applicant is intending to refer back to the "at least one covering layer", he/she should refer to the term with consistency to clarify the claim.

7. Claim 1 recites the limitation "the layers of said inorganic compound" in lines 5-6. There is insufficient antecedent basis for this limitation in the claim because there has not been any previous reference to any layers of inorganic compound in previous lines of the claim.

8. Claim 8 recites the limitation "said covering layer" in line 2, which is confusing and renders the claim indefinite. It is unclear if the applicant is intending on referring to the previous mentioned "at least one covering layer" or if the applicant is referring to a new layer. If the applicant is intending to refer back to the "at least one covering layer", he/she should refer to the term with consistency to clarify the claim.

9. Claim 9 recites the limitation "said covering layer" in line 2, which is confusing and renders the claim indefinite. It is unclear if the applicant is intending on referring to the previous mentioned "at least one covering layer" or if the applicant is referring to a new layer. If the applicant is intending to refer back to the "at least one covering layer", he/she should refer to the term with consistency to clarify the claim.

10. Claim 9 recites the limitation "the layers of said inorganic compound" in lines 5-6. There is insufficient antecedent basis for this limitation in the claim because there has

not been any previous reference to any layers of inorganic compound in previous lines of the claim.

11. Claim 10 recites the limitation "said covering layer" in line 3, which is confusing and renders the claim indefinite. It is unclear if the applicant is intending on referring to the previous mentioned "at least one covering layer" or if the applicant is referring to a new layer. If the applicant is intending to refer back to the "at least one covering layer", he/she should refer to the term with consistency to clarify the claim.

12. Claim 10 recites the limitation "the semiconductor screen" in line 4. There is insufficient antecedent basis for this limitation in the claim because there has not been any previous reference to any semiconductor screen in previous lines of the claim.

### ***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1-2, 5, 8, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Castelli et al (Pat Num 4,342,880, herein referred to as Castelli). Castelli discloses power cable (Fig 1) comprising one or more cores being at least in a common protective coating (Col 1, lines 5-8). Specifically, with respect to claim 1, Castelli discloses a cable (10) comprising a conductive material core (11) and at least one covering layer (12, 13, and 14) wherein the layer (12, 13, & 14) comprising an inorganic compound (i.e. carbon

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black) of sheet structure (in layers 12 & 14) and an organic compound (XLPE) inserted between the layers (12 & 14) of inorganic compound. With respect to claim 2, Castelli discloses an inorganic compound (i.e. carbon black) is an inorganic oxide. With respect to claim 5, Castelli discloses an organic compound (i.e. XLPE), which is a polymer. With respect to claim 8, Castelli discloses an insulative layer (12, 13, and 14) comprising an inorganic compound (i.e. carbon black) of sheet structure (in layers 12 & 14) and an organic compound (XLPE) inserted between the layers (12 & 14) of inorganic compound. With respect to claim 11, Castelli discloses a method of fabricating a power cable (10) including the steps of treating the inorganic compound (i.e. carbon black) with an agent (i.e. peroxide, Col 2, lines 29-32) to combine it with organic compound (i.e. polymer by mixing the treated inorganic compound (i.e. carbon black) with the organic compound (i.e. XLPE) at a temperature higher than the temperature at which the organic compound (i.e. XLPE) soften or melts (i.e. extrusion process, Col 2, lines 47-52) and obtaining a layer (12, 13, & 14) with an organic compound (i.e. XLPE) between the inorganic layers (i.e. carbon black in 12 & 14).

### ***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

17. Claims 3-4, 6-7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Castelli (Pat Num 4,342,880). Castelli disclose power cable (Fig 1) comprising one or more core being at least in a common protective coating (Col 1, lines 5-8) as detailed above in claim 1.

However, Castelli doesn't necessarily disclose the inorganic oxide being clay chosen from kaolin, smectite, montmorillonite, bentonite, beidellite, notronite, saponite, hectorite, vermiculite, wollastonite, or a mixture thereof (claim 3), nor the clay being selected from montmorillonite or bentonite (claim 4), nor the polymer being selected from a group of polyolefin, polybutylene terphthalate, vinyl polymer, an elastomer, polyamidimide, polyurethane, silicone, or mixture thereof (claim 6), nor the polymer being chosen from epoxy resin, polyester, polyamide, polyimide, polyetherimide, polyamide, polyurethane, silicone, or a mixture thereof (claim 7), nor the covering layer comprising an external covering comprising an inorganic compound of sheet structure and an organic compound inserted between the layers of inorganic compound (claim 9).

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With respect to claims 3-4, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the inorganic compound of Castelli to be made of clay such as bentonite, since it is well known in the art of cables that filler materials (i.e. clay), such as bentonite, are commonly utilized in polymer materials of cables because of its density to provide thicker insulations and its ability to swell when impregnated by water thereby providing a waterproofing mechanism for cables and since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

With respect to claims 6-7, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the polymer of Castelli to be made of a polyurethane material, since it is well known in the art of cables that polymer materials, such as polyurethane, are commonly utilized as cable insulations because of its excellent chemical, water, and abrasion resistance thereby protecting cables from external forces and elements and since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

With respect to claim 9, it would have been obvious to one having ordinary skill in the art, at the time the invention was made to modify the cable of Castelli to comprise an additional covering layer comprising an external covering comprising an inorganic compound of sheet structure and an organic compound inserted between the layers of inorganic compound, since it has been held that mere duplication of the essential



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working parts of a device involves only routine skill in the art. (*St. Regis Paper Co v. Bemis Co.*, 193 USPQ 8).

### ***Allowable Subject Matter***

18. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

19. Claim 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

20. The following is a statement of reasons for the indication of allowable subject matter: This invention deals with a power cable comprising at least one semi-conducting screen comprising material comprising an inorganic compound of sheet structure and an organic compound inserted between the layers of inorganic compound (claim 10). This invention also deals with a method of fabricating a power cable wherein the compatible agent is chosen from quaternary ammonium salt and an oxide of polyethylene and a phosphorus-containing derivative (claim 12). These limitations along with other claim limitations are not taught or suggested by prior art of record.

### ***Conclusion***

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Cioffe et al (Pat Num 5,104,735), Spenadel et al (Pat

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Num 5,246,783), Sunderhauf (Pat Num 4,008,367), Plate (Pat Num 3,792,192), Furukawa Electric Co (JP550004837A), all of which disclose power cables, Dharmarajan et al (Pat Num 5,674,613), Weil et al (Pat Num 5,578,666), Dharmarajan et al (Pat Num 6,150,467), Hendework et al (Pat Num 6,270,856), McKay et al (Pat Num 5,827,916), Vaidya (EP 0014336), and Lai et al (Pat Num 5,272,236), all of which disclose elastic polymers used for insulating layers of power cables.

### ***Communication***

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (703) 306-9061. The examiner can normally be reached on M-F 8:30 a. m.-6:00 p.m. (alternating Friday's off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (703) 308-3682. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

*Dean A. Reichard* 9/26/01